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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/534,705   | 12/05/2005  | Mun-Pyo Hong         | PNK-0296            | 8699             |
| 23413 7590 12/05/2008<br>CANTOR COLBURN, LLP<br>20 Church Street<br>22nd Floor<br>Hartford, CT 06103 |             |                      |                     |                  |
| EXAMINER<br>HU, SHOUXIANG  |             |                      |                     |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
| 2811   |             |                      |                     |                  |
| NOTIFICATION DATE  |             | DELIVERY MODE        |                     |                  |
| 12/05/2008   |             | ELECTRONIC           |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

### Office Action Summary

**Application No.**

10/534,705

**Applicant(s)**

HONG ET AL.

**Examiner**

Shouxiang Hu

**Art Unit**

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 4-15 is/are pending in the application.
- 4a) Of the above claim(s) 13-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-2 and 4-12, insofar as being supported by the elected species, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites the subject matter of "a portion of the gate insulating layer is disposed between the plurality of gate portions and the gate connection", but the disclosure lacks an adequate description regarding such subject matter, given that: only the portion of the gate electrode that directly covers and/or overlaps with the channel region can function and/or be regarded as a gate portion in the art. And, according to the original disclosure, the real gate portion in the instant invention is a portion of the gate electrode (123) that is also included in the recited gate wire in the instant invention (see lines 19-29 on page 5). Such real gate portion (123) directly overlaps with the channel portion. It is not clear how and/or in what sense the recited portion of gate insulating layer could be disposed between the gate portion(s) of the instant invention

and the gate connection, as the real gate portion(s) (123 in the instant invention) does/do not overlaps/overlap in any meaningful way with the recited gate connection. In fact, according to the original disclosure (especially see Figs. 1A and 1B), it is the gate line portions (121), instead of the gate portions (123), that has a portion of the gate insulating layer (140) between it and the gate connection (120).

Claim 7 recites the subject matters of: "the gate wire includes first and second gate wire portions and a gate connection" (line 16) and "a gate insulating layer formed on the gate wire" (line 4), which implies that the recited gate insulating layer is formed on the entire gate wire including the recited gate connection. However, such implied subject matters contradict with what is disclosed in the drawings and/or the specification (particularly see Figs. 1A and 1B; also see lines 19-29 on page 5 in the specification), in which the recited gate wire naturally includes the recited gate connection (120), and the recited gate insulating layer (140) is at least partially formed **under**, instead of being on, the recited gate connection (120) that is a part of the recited gate wire in the instant invention.

Furthermore, the subject matter of "a gate connection formed on the same layer as the data wire" recited in the claim also lacks full support in the disclosure, as it implies the subject matters that the recited gate connection is formed on the same layer as the entire data wire. According to the drawings and the specification in the instant disclosure (particularly see Figs. 1A-1C; also see lines 13-22 on page 7 in the specification), the data wire in the instant invention naturally includes at least a data

connection (170); and, at least such a data connection (170), as a part of the data wire, is not formed on the same layer as the recited gate connection (120).

Claim 8 recites the subject matter of "a data connection formed on the same layer as the gate wire", which implies that the recited data connection is formed on the layer as the entire gate wire. However, such implied subject matters contradict with what is disclosed in the drawings and/or the specification (particularly see Figs. 1A-1C; also see lines 19-29 on page 5 in the specification), in which the recited gate wire naturally includes the recited gate connection (120); and, the data connection (170) is not formed on the same layer as the gate connection (120) of the recited gate wire in the instant invention.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-2 and 4-12, insofar as being supported by the elected species, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the subject matters of a gate wire including a plurality of gate portions, and a thin film transistor connected to the gate wire and the data wire, which appear to imply that the recited gate portion(s) is/are not a part of the recited thin film transistor, given that the recited gate portions are defined as a part of the recited gate wire. However, it fails to clarify: what is the relationship between the recited thin film

transistor and the recited gate portion(s), and/or whether the latter is/are a portion of the former, given that only the portion of the gate electrode that directly overlaps with the channel region of the thin film transistor can normally function and/or be regarded as a real gate portion in the art.

Claim 7 recites the subject matter that "a portion of the gate insulating layer is disposed between the first and second gate wire portions, and the gate connection"; but it fails to clarify: what are the two entities the recited portion of the gate insulating layer is definitely disposed therebetween; and/or whether it means: the recited portion of the gate insulating layer is between the two gate wire portions, or between the first and second gate wire portions on one side and the gate connection on the other side.

### ***Response to Arguments***

5. Applicant's arguments filed on August 06, 2008 have been fully considered but they are not persuasive. And, responses to these arguments are fully incorporated into the claim rejections set forth above in this office action.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Friday, 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Gurley can be reached on 571-272-1670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shouxiang Hu/  
Primary Examiner, Art Unit 2811